

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Fumio ODAKA et al.

Group Art Unit: 1731

Application No.: Rule 53(b) Divisional of
Application No. 09/610,260

Examiner: C. Fiorilla

Filed: August 30, 2001

Docket No.: 106659.01

For: SILICON CARBIDE SINTERED BODY AND METHOD FOR PRODUCING
THE SAME

PRELIMINARY AMENDMENT

Director of the U.S. Patent and Trademark Office
Washington, D.C. 20231

Sir:

Prior to examination in the above-identified Rule 53(b) divisional application, please
amend the application as follows:

IN THE CLAIMS:

Please cancel claim 1 without prejudice to or disclaimer of the subject matter
contained therein.

Please add new claims 12-19 as follow:

- 12. A method for producing a silicon carbide sintered body, comprising:
- preparing a slurry by dispersing silicon carbide powder in a solvent;
 - forming a molded body by pouring the slurry into a mold and effecting
calcination of the slurry in a vacuum atmosphere or in an inert gas atmosphere; and
 - sealing pores within the calcined molded body by impregnating the pores with
high purity metal silicon molten by heating, and allowing the high purity metal silicon and

carbon contained in the molded body to react on each other in the pores so as to produce silicon carbide.--

--13. The method for producing a silicon carbide sintered body according to claim 12, wherein an average grain size of the silicon carbide powder is 0.01 to 10 μ m.--

--14. The method for producing a silicon carbide sintered body according to claim 12, wherein the silicon carbide powder is obtained by a process for preparing silicon carbide powder, which process comprises:

producing silicon carbide powder by homogeneously mixing a silicon source comprising at least one selected from tetraalkoxysilane and polymers of tetraalkoxysilane, each of high purity, and a carbon source comprising an organic compound of high purity which generates carbon upon heating, and heating and firing the mixture in a non-oxidizing atmosphere; and

effecting post-treatment in which heat treatment with the obtained silicon carbide powder being kept at a temperature from equal to or higher than 1,700°C to lower than 2,000°C and being heated at a temperature between 2,000°C and 2,100°C for 5 to 20 minutes at least once.--

--15. The method for producing a silicon carbide sintered body according to claim 14, wherein the silicon source is a polymer of tetraalkoxysilane and the carbon source is a phenol resin.--

--16. The method for producing a silicon carbide sintered body according to claim 12, wherein the silicon carbide powder includes impurity elements of which each content is 0.5 ppm or less.--

--17. The method for producing a silicon carbide sintered body according to claim 12, wherein the step of calcination is carried out at temperature from 1500 to 1900°C.--

--18. The method for producing a silicon carbide sintered body according to claim 12, wherein a carbon content of an organic substance impregnated in the molded body during the calcination is 10 to 30%.--

--19. The method for producing a silicon carbide sintered body according to claim 12, wherein a substance that forms a nitrogen source is added during one of preparing the slurry and forming the molded body.--

REMARKS


Claims 12-19 are pending. This Preliminary Amendment cancels claim 1 and adds new claims 12-19, which are directed to a method for producing a silicon carbide sintered body.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Prompt examination on the merits is respectfully requested.

Should the Examiner have any questions in this matter, the Examiner is respectfully requested to contact Applicants' undersigned representative.

Respectfully submitted,



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Attachment:

Appendix

Date: August 30, 2001

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DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
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APPENDIX

Changes to Claims:

Claim 1 is canceled.

Claims 12-19 are added.

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